meta-submetacentric Y chromosome is found in *Gazella soemmeringi* (Benirschke et al. 1984), but nothing was published on its content of heterochromatin. Constitutive heterochromatine in a Y chromosome (either Y1 or Y2) has only been demonstrated for the acrocentric Y1 of *Gazella subgutturosa* (Hsu and Benirschke 1977; Benirschke et al. 1984).

Ellerman and Morrison-Scott (1951), followed by Haltenorth (1963) and Roberts (1977) grouped *Gazella bennetti* as a subspecies with *Gazella gazella*. Groves (1969), followed by Lange (1972) and Corbet (1978) placed it with *Gazella dorcas*. Only recently Groves (1985) has revised his views due to the accumulating evidence for an independent position of the Indian gazelle. From the cytological criteria demonstrated above, the investigated animals are too different from both *gazella* and *dorcas* to be interpreted as being just a variation of the karyotype of one of these species. As has been shown, the closest accordance exists with *Gazella subgutturosa*. This is surprising only if this species is really regarded as belonging to a different subgenus (*Trachelocele* Ellerman and Morrison-Scott, 1951). The existence of a throat-swelling in males of the goitred gazelle during the breeding season – which is the character used by Ellerman and Morrison-Scott (1951) to define this subgenus – does not appear to be a good character for a subgeneric separation of *Gazella subgutturosa*. In any case, the remaining cytological differences such as the number of necessary Robertsonian fissions or fusions and the previously unreported form of the Y1 chromosome make it unlikely that our *Gazella bennetti* is too closely related even to the latter species. The karyological differences point to the necessity of establishing *Gazella bennetti* as a species in its own rights. Since *Gazella bennetti* and *Gazella subgutturosa* have an overlap in distribution and since there are no intergrading populations, there would be no doubt that they are separate species even without evidence of karyological differences.

Gazella bennetti was included into *Gazella dorcas* because of similarities in cranial morphology. Having to exclude it now, also changes the range of variation of this last species. Without *bennetti,* the remainder of the Dorcas gazelles becomes more uniform, which in reverse affects the status of other marginal groups. Particularly the other eastern forms with fairly straight horns, like the Saudi gazelle, *Gazella dorcas saudiya* Carruthers and Schwarz, 1935, or Pelzeln's gazelle, *Gazella dorcas pelzelni* Kohle, 1886, are candidates for exclusion from *Gazella dorcas*. Together with the gazelles from the Red Sea islands (Groves 1983) they might rather form a complex with *Gazella bennetti*. It would be interesting to compare the karyotypes of these taxa.

It is obvious from our results that chromosome studies will add further pieces of evidence to the yet uncomplete understanding of evolution and systematics of the gazelles. Future schemes should at any rate separate the forms according to the occurrence of a second Y chromosome in the males, which seems to be a particular evolutionary feature of most gazelles (Wahrman et al. 1973). Thomson's gazelle, and if they are conspecific (Groves 1985) the Red-fronted and Heuglin's gazelle as well, would have to be excluded from the gazelle genus on this basis. Among the gazelles with a double Y chromosome, the subgenus *Nanger* will probably remain a useful subdivision, whereas *Trachelocele* in the sense of Ellerman and Morrison-Scott (1951) will not. It is obvious on morphological grounds that *Gazella subgutturosa* is related to *Gazella leptoceros* (Lange 1972). Our studies have revealed karyological affinities between *subgutturosa* and *bennetti*. Future studies will be necessary to investigate their morphological relations.

Finally, one important remark has to be added: regional aspects must be considered carefully in future chromosome studies of gazelles. As in the case of *Gazella bennetti,* local populations – thought to belong to a more widespread species – may turn out to be independent taxa. It may later be possible to relate karyotypes and geographical distribution. Thus, the geographical origin of the animals under study, even if as unprecise as in our case, must be published together with the karyological results. This is, for example,

not the case in the „Chromosome Atlas" (Hsu and Benirschke 1967/77), from where basic information had to be used in this study as well.

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Zusammenfassung

Systematik und Chromosomen der Indischen Gazelle, Gazella bennetti (Sykes, 1831)

Bei 3 Individuen von *Gazella bennetti* wurden Chromosomenzahlen von 2n = 50 (♀) und 51 (♂) gezählt. Aufbau und Gestalt der X- und Y1-Chromosomen unterscheiden sich von denen anderer Gazellenarten. Die Indische Gazelle darf nicht als Unterart von *G. gazella* oder *G. dorcas* klassifiziert werden.

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